# Exhibit 2

# Arad, Ben (USANYS)

From: Keri Axel <kaxel@waymakerlaw.com>
Sent: Thursday, June 26, 2025 12:11 AM

To: Arad, Ben (USANYS); Brian Klein; Becky James; Emily Stierwalt; Kevin Casey; Viviana

Andazola Marquez; David Patton; Nick Pavlis

Cc: Rehn, Nathan (USANYS); Gianforti, Benjamin (USANYS); Mosley, Kevin (CRM)

**Subject:** [EXTERNAL] RE: Supplemental Defense Expert Disclosures (Hurder)

### Dear Counsel:

We write to respond to AUSA Arad's questions regarding Dr. Stephanie Hurder's supplemental disclosure.

As a threshold matter, we, of course, maintain our objection that Rule 16(b)(1)(C)(i) does not require the defense to provide expert witness disclosures absent a triggering request from the defense that the government provide such disclosures. That being said, the defense acknowledges, and indeed has complied, with the Court's order requiring the defense to make such disclosures. We also believe that we were not required under Rule 16 to supplement Dr. Hurder's initial timely-disclosed opinions, but have done so out of an abundance of caution at your request and to address your questions and concerns.

Responses to your questions are interlineated below in blue. Please note that Dr. Hurder is on vacation with her family in Europe, so we have done our best to respond to this as soon as we could, but she will not be in the same time zone and available to work until next week should you have further questions.

We reserve our client's right to further supplement and/or revise Dr. Hurder's disclosed opinions as deemed necessary under Rule 16(b)(1)(C)(vi).

Best, Keri

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From: Arad, Ben (USANYS) < Ben.Arad@usdoj.gov >

**Sent:** Thursday, June 19, 2025 4:12 PM

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**Subject:** Supplemental Defense Expert Disclosures

### Defense team -

We are reviewing the untimely and deficient defense expert disclosures that you filed yesterday and considering the remedies we will seek. In the meantime, please provide the information requested below concerning Stephanie Hurder's supplemental disclosure.

*First*, please provide the data and analysis underlying the following portions of Dr. Hurder's supplemental disclosure:

- 1. Section 1, Para. 5(f):
  - "Using regression analysis to control for market movements, the DAO hack was associated with a 54% net decrease in the price of TORN, which was statistically significant at the 1% level."
- 2. Section 2, Para. 3(a):
  - "In the period between June 11, 2021 and August 7, 2022, a 1% increase in the price of BTC (ETH) is associated with a 0.95% (0.73%) increase in the price of TORN. These relationships are statistically significant at 1%. Movements in the price of BTC (ETH) explain 58% (52%) of the variance in the price of TORN for the time period."
- 3. Section 2, Para. 3(b):
  - "In the period between March 1, 2022 and August 7, 2022, a 1% increase in the price of BTC (ETH) is associated with a 1.11% (0.88%) increase in the price of TORN. These relationships are statistically significant at 1%. Movements in the price of BTC (ETH) explain 82% (87%) of the variance in the price of TORN for the time period."
- 4. Section 2, Para. 6(a):
  - "Controlling for market movements, in the two weeks following the public announcement of the Ronin Hack, the price of TORN dropped net 14%. This is statistically significant at 1%."
- 5. Section 2, Para. 7(a):
  - "Controlling for market movements, the quantity of deposits that allegedly stem from the Ronin Hack did not explain variation in the price of the TORN token. Coefficients on the Ronin Hack values were not statistically significant, and including them in the model did not improve the explanatory power of the regression model."

As to the data underlying her analysis, data was previously provided to you with her initial disclosure, called "Into the Block Token Data" that includes token price data for TORN, BTC, and ETH. She also used data produced by SA DeCapua, called "data\_from\_etherscan\_daily.csv" and, for the "quantity of deposits that allegedly stem from the Ronin Hack," she used SA DeCapua's spreadsheet titled "Axie\_Ronin\_to\_Tornado\_Cash\_20241101.xlsx."

As to the analysis, the government specifically called into question the adequacy of Dr. Hurder's bases for her opinions that (1) the price of TORN was correlated with ETH and BTC (Gov't Mot. at 18, citing Hurder Disclosure at ¶¶ 16, 17)); (2) the Ronin hack did not benefit the TORN price. (Gov't Mot. at 21, citing Hurder at ¶ 19(c)); and (3) her opinion that "TORN as a standalone governance token had value to buyers (Gov't Mot. at 21, citing Hurder at ¶ 11(d)). Dr. Hurder has responded to these criticisms in her supplemental disclosure, both by explaining the validity of correlation analysis (Hurder Supp. Disclosure 2(2)); but also by performing additional regression analyses to isolate the effect on TORN of these various other tokens and market events. The results of these regression analyses are described in the supplemental disclosure and support her previously timely disclosed opinions.

## Second, please explain:

- 1. How did Dr. Hurder "us[e] regression analysis to control for market movements"? We understand you to be referring to Section 1, Para. 5(f), concerning the regression analysis to isolate the effect of the DAO hack on the price of TORN. As explained in footnote 1: "Following the recommendations of Gelman and Hill (2006), log-log regressions are used to estimate comovement among positive variables." Dr. Hurder conducted a regression analysis to estimate whether, post-DAO hack, movements in the price of TORN deviated significantly from the crypto market as proxied by ETH and BTC. As such, she ran a regression that included the prices of ETH and BTC as controls. Dr. Hurder does not conclude that this is causal, but instead that, as set forth in Section2, Para. 5(f), that "the DAO hack was associated with a 54% net decrease in the price of TORN, which was statistically significant at the 1% level." Dr. Hurder provided a reference, Gelman, A. and J. Hill., Data Analysis Using Regression and Multilevel/Hierarchical Models, Cambridge University Press, 2006, to provide further information on the bases of her opinion.
- 2. What does it mean for an event to be "associated" with a change in the price of TORN, as in Dr. Hurder's conclusion that "the DAO hack was associated with a 54% net decrease in the price of TORN"? Please explain this for every such "association" referenced in the portions of Dr. Hurder's disclosure set forth above. "Associated with" in this context means "statistically associated with" which is a common term in statistical analysis. It indicates that the analysis shows that two variables have a relationship, without implying causality. See, e.g., Gelman, A. and J. Hill. Data Analysis Using Regression and Multilevel/Hierarchical Models, Cambridge University Press, 2006 (using the term frequently in their exposition of a variety of statistical models).
- 3. How did Dr. Hurder conclude that "movements in the price of BTC (ETH) explain [certain percentages] of the variance in the price of TORN" for each of the time periods above? As stated, Dr. Hurder ran log-log regressions to estimate the relationship between movements in the price of TORN and movements in the price of BTC and ETH. The coefficients of these regressions are reported in the supplement Section 2, Para. 3(a)-(b). These regression analyses also produce, as outputs, a measure called R squared, which is the percent of the variation of the price of the independent variable explained by the dependent variable using the regression model. In this case, it is the fraction of the movement in the price of TORN explained by movements of the price of BTC and ETH. These percentages are reported in the supplement Section 2, ¶ 3(a)-(b). The values in supplement Section 2, ¶ 3(a)-(b) strongly support the conclusions reported in the initial Disclosure. This regression analysis supports the previously disclosed opinion and method, which was based on a correlation analysis of various cryptocurrencies and further supported under Section 2, ¶ 1-2.
- 4. How did Dr. Hurder conclude that "the quantity of deposits that allegedly stem from the Ronin Hack did not explain variation in the price of the TORN token" and that "[c]oefficients on the Ronin Hack values were not statistically significant, and including them in the model did not improve the explanatory power of the regression model"? To perform this regression analysis, Dr. Hurder used the data identified above. She performed a regression analysis to analyze whether, controlling for the movements of crypto markets overall as proxied by ETH and BTC, changes in the quantity of alleged deposits stemming from the Ronin Hack as reported by SA DeCapua meaningfully explained changes in the price of TORN. She finds that, controlling for the market, the coefficient on the quantity of Ronin Hack deposits in the regression is small and not statistically significantly different from 0 at any meaningful level. The incremental variation of the price of TORN explained by including the quantity of alleged Ronin Hack deposits is only 0.1%-0.3% once movements of the overall crypto market are accounted for.

We may request additional analysis, data, and clarification with respect to your supplemental expert disclosures.

Best, Ben **Ben Arad** 

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